REMARKS

Favorable reconsideration and allowance of this application are requested.

By way of the amendment instructions above, pending independent claim 1 has been revised further in an effort to clarify the claimed subject matter. Specifically, claim 1 has been revised so as to improve its syntax and to clarify that the propeller pump (120) is also located essentially at the machine level, as shown e.g., in Figure 2. Claims 1-7 therefore remain pending herein for which favorable reconsideration and allowance are requested.

The Examiner has cited a new reference, USP 4,378,978 to Andersson et al, in formulating his claim rejections. In this regard, the Examiner asserts that the pulp is fed into gas separation tank (13) with pump (14), and argues that it would have been obvious to pump the low consistency pulp of Andersson et al using the known low consistency pump of the previously cited Sampi reference.

At the outset, it should be noted that a suitable type of pump is generally chosen by those skilled in this art by taking into account also factors other than the material to be pumped. The Anderson et al reference teaches the use of a *regenerative* pump. Those skilled in this art would therefore know that the function of such a pump is to slow down the mixture flow to the gas separation tank, bring about a suitable pressure across the vortex cleaner and control the negative pressure in the gas separation tank.

The regenerative pump and propeller pump operate according to entirely different principles. The propeller pump is one in which the flow therethrough is substantial axial. The fluid being pumped is not sent in a circular path. Rather, it proceeds more or less in a straight direction up to the discharge. It is used when maximum capacity and minimum head are desired.

A regenerative pump, on the other hand, is a rotating-vane device that uses a combination of mechanical impulse and centrifugal force to produce high liquid heads at low volumes. The regenerative pump basically comprises a rotating impeller with a plurality of radial blades located within a casing. The impeller draws a fluid through an inlet port into the pump casing. Upon contact with an impeller blade, the fluid is forced radially outward toward the wall of the casing and follows the wall radially inwardly until it is again drawn into contact with another blade and the process continues by centrifugal force. Thus, the fluid circulates around and around, and each time it passes the blades it gains additional pressures.

Hence, one skilled in this art would not "obviously" substitute a propeller pump with a regenerative pump in the first instance.

Turnig attention to the specific rejections of record, the Examiner has rejected claim 1 as "obvious" under 35 USC §103(a) by combining Andersson et al and Sämpi.

Sämpi teaches that a pulp stock of low consistency can be pumped by means of centrifugal pumps or propeller pumps. However, Sämpi does not relate to the short circulation process of a paper machine, but to mixing chemicals and washing water in to pulp during bleaching and washing at a pulp mill. Neither does Sämpi suggest the use of regenerative pumps. The Examiner argues that the present invention's use of a propeller pump in connection with the short circulation is "obvious" over Sämpi and Andersson et al. However, as discussed above, in the Andersson et al system, the regenerative pump has certain functions, and this type of pump has to be used to guarantee an efficient operation. As such, for the reasons noted previously, the substitution urged by the Examiner would not be "obvious" at all and indeed those in the art would be completely prejudiced against such a substitution.

Furthermore, Andersson discloses the need for two pumps, the mixing pump 11 and the regenerative pump 14, between the white water container and the aeration tank. In the present applicant's system, multiple pumps are not necessarily needed and a single pump, i.e. the propeller pump, by means of which the pulp is fed to the gas separation tank, is preferably all that is required. Andersson et al (see column 5) suggests that the regenerative pump can serve also as a mixing pump if the aeration tank has a certain position relative to the mixing. However, the pump position is not specified, and it is applicant's belief that a propeller pump cannot be used in such a system.

In the Andersson et al system, the aeration tank 13, the vortex cleaner and the mixing pump 11 are positioned to be at substantially the same level as the top of the white water container, when the level of white water in the container can be maintained even with the level of the mixture in the aeration tank (col. 3, line 60-65, claim 6). In the present applicant's system, ***the white water tank and the propeller pump are located at the same level, i.e. essentially at the machine level***.

Therefore, even though energy savings is the object of both the Andersson et al system and the present invention, the solution provided by the present invention is entirely, and indeed patentably, different. There is thus no reason at all for an ordinarily skilled person to combine the Andersson et al and Sämpi references.

With regard to claims 2-5 and 7, the Examiner asserts that Vikiö teaches the separate treatment of different pulp fractions in the short circulation.[1] Applicant disagrees. What Vikiö teaches is the treatment of a reject from the vortex cleaning plant (14 in Fig. 1 of the present application) after which treatment the reject can be returned to the process. In the Vikiö process, the reject is dispersed (48 in Fig. 2 of Vikiö) into

finer fractions for reuse. However, Vikiö does not teach how other raw material fractions for the paper pulp to be fed to a paper machine are treated. Vikiö does not teach that other material needed for paper making, such as fresh pulp, secondary pulp and/or broke are treated in their own cleaning stations. This kind of system brings about several advantages as disclosed, for example, at page 9 of the applicant's International Application WO 0011265.

Makkonen has been cited for an alleged teaching of separating the pulp from the white water tank to the gas separation tank into separate fractions and then separately treating each of the fractions. However, the present applicant does not claim that the pulp material is first formed by mixing different raw material components (fresh pulp, broke etc.), fed to the white water tank and then separated into different fractions. Instead, according to the present applicant's claimed process, the raw material components (fresh pulp, broke etc) are treated separately *before* they are mixed (see page 9, line 19 to page *5,* line 12 of the International Application WO 0011265). Therefore, Makkonen does not disclose or suggest the presently claimed invention.

As to claim 6 which attracted a rejection based on Anderson et al and Sampi in view of Meinander, applicant notes that Meinander's system differs essentially from the present invention for at least the following reasons. In this regard, Meinander corresponds to FI 89728 which is described on page 2 of the present application. In column 5, lines 52-55, it is stated that the main fiber process is marked with a fat line passing through equipment number 10, 11, 12, 30 and 40. In column 6, it is described that in the mixer 12, tock is diluted to a consistency suitable for sorting in the centrifugal cleaner 30. Thus, Meinander treats the pulp in the cleaning means. There is no white water tank or gas separation tank in the Meinander system, but air is separated from

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[1] A typographical error appears to be present in the Examiner's rejection stated in the ultimate paragraph on page 2 of the subject official action since claim 19 was included in such rejection, but that claim was canceled via the after-final Amendment dated January 2, 2003.

white water in pumps 20 (column 6, lines 36-37). Meinander reference is therefore not relevant to the present invention since it does not even have the same elements (e.g., the white water tank is missing) as compared to the present invention. Withdrawal of the rejection advanced against claim 6 is therefore also in order.

Every effort has been made to advance prosecution of this application to allowance. Early official notice of the same is therefore solicited.

Respectfully submitted,

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